REMARKS

The substitute specification requested is being filed concurrently.

The substitute specification includes reference character 11 on page 4 to attend to the objection to the drawing.

Claim 1 is edited above without the narrowing or affect on patentability that would invoke any present Festo decision, except as to temperature 1580°C to attend to the objection under 35 USC 112, second paragraph.

Claims 3 and 6 include the same temperature change, while claims 2 and 5 are just narrowed to a magnetic field despite some other editing.

All of independent claims 1, 3 and 5 thus now include a magnetic field, which the laser isotope separation method of the Sasao, et al. patent does not, whereby to traverse the rejection for anticipation under 35 USC 102.

The rejection for anticipation should not be converted into one for obviousness by combination with the art admitted on the first pages of the specification, because there is no motivation to use the laser isotope separation of the patent in combination with the magnetic field isotope separation of the admitted art. In fact, the fact that the patent recognized that palladium could be used as a source of ions, but did not think even to try it with the other, already known magnetic field way of separation shows that the combination claimed is not obvious.

In furtherance of the non-obviousness that the known magnetic field separation methods did not recognize that temperature permitted metallic palladium to be used, the claimed temperature range is raised above that even taught by the patent. The claimed invention teaches temperatures higher than the range of the art so as to be able to use metallic

palladium effectively for separation efficiently by magnetic field.

More specifically:

1) gaseous palladium is created using a effective resistance heater, but not an electron-bam gun;

2) its ionization proceeds uder action of electron emission from a hot cathode, but not with the aid of a complex three-step laser ionization system;

3) the patent, column 8, lines 45-49, contains disclosure of only collimation of a gaseous palladium beam for more effectively acting thereon by laser emission, but not at all the magnetic field focusing of ion beams therefor;

4) from the patent specification there follows that the collection of ionized palladium isotopes is carried out with electrical plates, with the focusing feature not used at all, i.e., a palladium isotope is produced out of those possible in one working cycle. Thus the question is not of simultaneously separating all of the palladium isotopes in one cycle;

5) Pd-107 isotope can be obtained by our method technically; the only obstacle for this is the radioactive contamination of separation chambers in which the stable non-radioactive isotopes are separated, a factor that is extremely undesirable;

6) temperature 1850°k, as indicated in the patent, corresponds to the temperature of a palladium evaporable surface 1576.84°C; it only partially overlaps the range, as claimed, called for in the application, and is, more likely than not, enough to realize the opposed method, all the more so as patent '562 is completely silent about productivity at the time of obtaining the isotopes while, as evaporation temperature goes up, palladium vapors density and production of isotopes thereof can grow, which determines the output of the method as claimed. For the feature, known from state of the art, to be excluded, applicant proposes to

reduce the temperature range up to (1580-1700)°C; and

7) enrichment of palladium isotopes obtained by the claimed method is much higher than that of the method cited, judging by the same enrichment of Pd-105, as shown by comprising the Table of the application to Fig. 5 of the patent.

Reconsideration and allowance are, therefore, requested.

Respectfully submitted,

William R. Evans
c/o Ladas & Parry
26 West 61st Street
New York, New York
Reg. No. 25858
Tel. No. (212) 708-1930

Marked-up Copy

1. (twice amended) A method of palladium isotope separation in an electromagnetic separator with use of having a source of ions including comprising:

placing of a working substance in a combined with gas-discharge chamber/graphite crucible of the source of ions,

heating of the working substance up to the into a vapor; state;

ionization of ionizing the vapors of the working substance in the gas discharge chamber of the source under action of with electron emission from a hot cathode,;

forming of the ionized vapors into beam by with electrodes of and ion-optical system,;

separationng and focusing the ionic beams of according to isotopes in with a magnetic field,; and

entrapping the ions by isotopes in receiving boxes,

wherein methal palladium being used as the working substance is metallic palladium and temperatures of the heating of the crucible and the gas-discharge chamber being maintained within are 15080-1700°C.

2. (amended) A method using ion beams of a material in a vapor magnetic field for separating isotopes of at least a constituent of the material, characterized in that the material is metallic palladium.

3. (amended) The method according to claim 2, wherein the metallic palladium material in the vapor is obtained by heating metallic palladium to 15080-1700 degrees Centigrade.

5. (amended) In a method using ion beams of a material in a vapor magnetic field for separating isotopes of at least a constituent of the material, the improvement wherein the material is consists essentially of metallic palladium.

6. (amended) The method according to claim 5, wherein the metallic palladium material in the vapor is obtained by heating metallic palladium to 15080-1700 degrees Centigrade.